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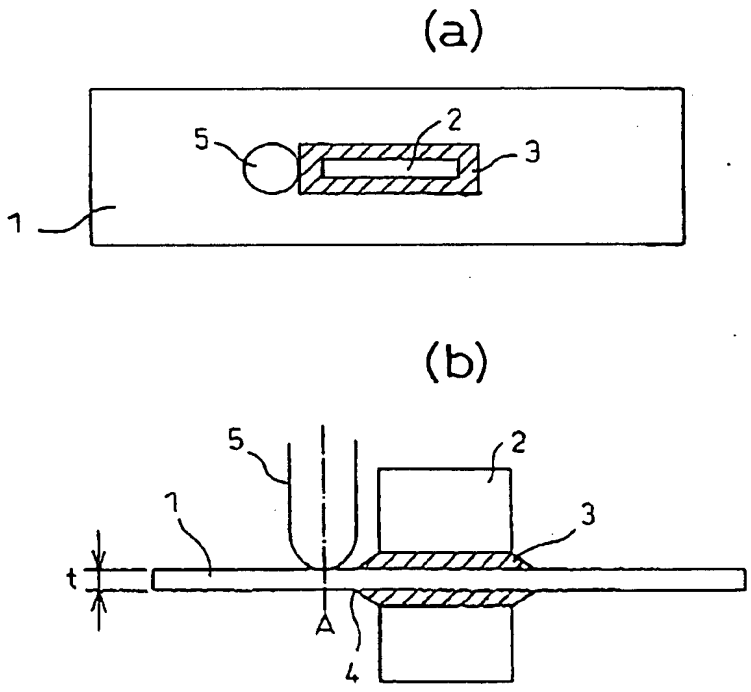
(54) Title: BOXING JOINT WITH EXCELLENT FATIGUE STRENGTH, METHOD OF MANUFACTURING THE BOXING JOINT, AND WELDED STRUCTURE

(54) 発明の名称: 疲労強度に優れた回し溶接継手、回し溶接継手の製造方法、および、溶接構造物



(57) Abstract: A boxing joint with an excellent fatigue strength used for welded structures such as buildings, ships, bridges, construction machinery, and marine structures to weld the end parts of two steel plates vertically combined with each other, a method of manufacturing the boxing joint, and welded structures using the boxing joint, the boxing joint wherein at least the steel plate of the two steel plates to which a main stress is applied is formed to suppress the propagation of fatigue cracking and, desirably, to have a compressive residual stress on the front surface layer of the steel plate, and where the plate thickness of the steel plate is t, a residual stress in a main stress direction in an area of t/10 or more or 3 mm or more from the boxing welding face of the steel plate in a plate thickness direction is the compressive residual stress.

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LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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添付公開書類:
— 国際調査報告書

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

(57) 要約: 建築、造船、橋梁、建設機械、海洋構造物などの溶接構造物に用いられる、２枚の鋼板を垂直に組み合わせた端部を溶接する疲労強度に優れた回し溶接継手、回し溶接継手の製造方法、および、回し溶接継手を用いた溶接構造物を提供するものであり、２枚の鋼板を垂直に組み合わせた端部を溶接する回し溶接継手において、前記２枚の鋼板のうち少なくとも主応力がかかる側の鋼板が疲労き裂の伝播を抑制する鋼板、好ましくは、鋼板の表層に圧縮残留応力を有する鋼板、であって、該鋼板の板厚をｔとするとき、該鋼板の回し溶接面から板厚方向にｔ／１０以上、または３ｍｍ以上の範囲までの主応力方向の残留応力が、圧縮残留応力である。

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP03/12916

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] B23K31/00, B23K9/02, B23K9/235

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] B23K31/00, B23K9/02, B23K9/235

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2003-1476 A (Nippon Steel Corp.), 08 January, 2003 (08.01.03), Full text (Family: none)	1-4
A	JP 2003-1477 A (Nippon Steel Corp.), 08 January, 2003 (08.01.03), Full text (Family: none)	1-4
A	JP 8-333632 A (Ishikawajima-Harima Heavy Industries Co., Ltd.), 17 December, 1996 (17.12.96), Full text (Family: none)	1-4

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 January, 2004 (13.01.04)	03 February, 2004 (03.02.04)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
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